

MOVING TRANSPORTATION IN THE RIGHT DIRECTION

**New Jersey Clean Air Council
2003 Annual Public Hearing Report**

" In Memoriam- Bill Librizzi, served this council in many ways, one of which was being this year's hearing chairman. Bill suddenly passed away in June of this year. Bill's commitment to public service, to environmental protection and to education is an inspiration to us all. The Clean Air Council wishes to dedicate this hearing report and reaffirm our commitment to advancing our mission of assuring cleaner air for all of the citizens of New Jersey in the name of William Librizzi."

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TRANSPORTATION AND AIR QUALITY

Public Hearing April 2, 2003

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NEW JERSEY CLEAN AIR COUNCIL

Public Hearing, Wednesday, April 2, 2003
Trenton, New Jersey

TRANSPORTATION AND AIR QUALITY

INTRODUCTION

The quality of the air we breathe has a dramatic effect on our personal health and the health of our communities. Recent studies have shown that high concentrations of pollutants, such as ozone and particulate matter, adversely affect our health. For example, it is well known that children with asthma and older adults with lung diseases, such as emphysema and COPD (Chronic Obstructive Pulmonary Disease), have an increased risk of disease exacerbation requiring medical treatment on days with poor ambient air quality within their community. Health-based air quality standards are designed to provide protection of human health, which is the ultimate basis for many of NJDEP's regulations. The NJDEP knows the impact that transportation has on our air quality and human health. Transportation issues are complex and require innovative solutions with the ultimate goal of protecting air quality and hence our communities' health.

This public hearing solicited advice from interested parties on new ways in which New Jersey can improve transportation and meet clean air goals.

SCOPE

New Jersey's dependence on the automobile has a direct impact on air quality. Patterns of development, such as increased population, suburban sprawl and suburban office parks have increased dependence on automobiles and increased vehicle miles traveled (VMT). The existing transit system does not provide transportation adequate for use by vast numbers of commuters. Congestion, idling vehicles and vehicle cold starts also contribute to poor air quality.

Past patterns of development and allocation of spending for new roads has created this problem. Although vehicles are getting cleaner, New Jerseyans are driving more with anticipated VMT to continue its upward trend and congestion already a critical problem. Breaking this cycle will require political will and a reassessment of home rule. Recent initiatives by the state that promote "Smart Growth" planning and the integration of environmental protection with development can change these growth-related problems.

The State has worked consistently at complying with the health-based National Ambient Air Quality Standards since the passage of the Clean Air Act (CAA) in 1970 and has substantially improved its air quality. It will need to develop new strategies to meet new federal health standards for fine particulates (PM 2.5), and air toxics and the eight-hour average ozone standard. These pollutants are a serious public health concern in New Jersey.

BACKGROUND

In the last 30 years New Jersey's population has increased 38%, the number of drivers has increased 68% and VMT has increased 142%. As a result, over 60% of the State's interstate system is operating at or above capacity during peak periods of use. New Jersey has more miles of highway per square mile than any other state. Cars are cleaner than in the past, but the number of cars in New Jersey increases yearly and the number of VMT continues to increase. This intensive dependence on automobiles contributes about one-third of New Jersey's air pollution inventory.

With a predicted growth of one million more residents by 2020, the citizens of the State need to take responsibility for reducing motor vehicle dependence and increasing utilization of mass transit in order to clean the air. "Smart Growth" development could help by decreasing the distance traveled to and from work, by improving the interconnection of the transit systems, by increasing bicycle and pedestrian travel and by bringing people and destinations closer together.

The State Plan and "Smart Growth" principles recommend the development of centers and compact forms of development in order to reduce the need for additional roads and increase the use of mass transit. "The State Plan calls for the redevelopment, maintenance and revitalization of our existing communities and the development of new communities in compact forms with a mix of uses." (State Plan Executive Summary p.10) Revitalizing urban centers, creating and supporting Transit Villages could reduce VMT.

Mobile sources of air pollution in New Jersey have been the subject of legislation and regulation in order to bring the State into compliance with the requirements of the Clean Air Act Amendments (CAAA). The first Federal Clean Air Act (1970) established the basis for achieving health-based National Ambient Air Quality Standards in the United States. Each state was directed to write a State Implementation Plan (SIP) describing its strategy for attaining and maintaining these federal standards.

At the present time advanced vehicle emissions control and reduction in vehicle miles traveled seem to offer the most beneficial path to reach clean air goals. In addition, an increase in mass transit, more low emission vehicles (LEVs),

improved fuel quality, diesel retrofits and new pattern of land development would reduce mobile emissions.

Other approaches, such as the use of regional planning, reform of the tax laws to prevent the ratable chase, increase in gasoline taxes for mass transit support, car pooling financial incentives, tax incentives for low emission vehicle purchase, changes in Municipal Land Use Law and promotion of the State Plan and “Smart Growth” have been suggested at this hearing.

RECOMMENDATIONS

1. Because transportation and land development are closely allied, the Clean Air Council recommends that the principles of the “Smart Growth” Initiative be implemented to more effectively control New Jersey’s land-use planning. The integration of the State Development, Redevelopment Plan and the BIG Map (Blueprint for Intelligent Growth) in the “Smart Growth” Initiative can provide unified land use plans with strong planning elements, including air quality requirements. For example, a change in land development patterns can significantly change travel behavior.
2. The Council recommends that improvements in methods for cooperative regional planning be explored by the State. Center-based land use patterns, such as transit villages and revitalized cities, can reduce automobile dependency and improve air quality. The Council recommends that the state conduct a study of the existing regulatory framework that affects implementation of regional cooperation and identifies the steps that will advance common goals.
3. The Council supports the revitalization of NJ’s major cities through a comprehensive approach that addresses quality of life in our neighborhoods. Several initiatives to be considered include; improvements in air quality, tax incentives, development of brownfields, better crime control, commodious mass transit options, improved schools and a variety of housing options.
4. The Council is concerned that the current “ratable chase” is spurring development patterns that increase air pollution. The Council asks the legislature to consider if comprehensive property tax reform and alternative methods of taxation, as, for example, for school funding, would encourage sound planning processes and good development patterns.
5. The Council urges the State to implement as many as possible of the recommendations of the Congestion Buster Task Force of October 2002. The Council especially recommends support for Transportation Management Association programs (TMAs) and pricing measures to ease peak traffic periods and reduce VMT. In this regard the Council recommends that the

DEP serve as a catalyst to bring together the critical players in a forum that can lead to a strategic framework and required support, especially at the local level.

6. The Council believes that additional funding for mass transit is justified. The Council supports the Transit Development Action Grant program and the Governor's Blue Ribbon Transportation Commission which is wrestling with the problem of providing adequate funding for public transit. Funding intra-New Jersey projects that connect urban neighborhoods to significant destinations and revive investor interest in those neighborhoods should be studied.
7. The Council recommends that the State provide financial incentives to encourage the purchase of Ultra Low, near zero, Emission Vehicles (ULEV), hybrid vehicles and fuel-efficient vehicles. The Council recommends that the state initiate a "green vehicle" labeling program for motor vehicles in the state and that this labeling carry financial incentives as well as clean air incentives.
8. The Council supports the Commuter Choice program as a method of encouraging car pooling, telecommuting and alternative modes of transportation to work. The Council encourages the State to work more closely with EPA and other federal agencies to provide incentive, outreach and encouragement for greater participation.
9. The Council also recommends strategies for reducing fine particulate emissions from diesel-powered vehicles and equipment. Such strategies should include a program for retrofitting buses, sanitation truck fleets and state and municipal diesel fleets as well as encouraging the retrofitting of the much larger privately owned fleets. The Council also supports a program for purchasing low sulfur diesel fuels for both public and private fleets.
10. The Council applauds the effort of State Government to encourage "Smart Growth," revitalize urban and suburban areas, and reduce sprawl patterns of growth. However, the Council is concerned that promoting growth in urban centers will on the short term exacerbate documentable air quality issues in these areas. In order to net out the negative impacts of additional growth, significant efforts in improving vehicular traffic flow through these areas will have to occur. The Council urges that air quality issues be considered in any and all state initiatives that will channel growth into areas where air quality impacts may already exist.

The following recommendations are from prior hearings. It is the Council's tradition to include former recommendations where applicable.

11. The Council recommends that the public policy of New Jersey should be to increase the capacity of public transportation to the maximum extent possible. This policy should encourage more light rail projects as well as programs that better coordinate and connect existing public transportation systems.
12. The Council continues to support a statewide public awareness and education program with emphasis on the impact of automobiles on air quality in general and air toxics in particular. This program should continue to stress the importance of reducing vehicle miles traveled, the advantage of the use of public transportation, the benefit of the purchase and use of LEVs, ULEVs and ZEVs (respectively, low, ultra-low and zero-emission vehicles), as well as the importance of good vehicle maintenance.
13. The Clean Air Council, in its own deliberations, recognizes that reasonable measures to smooth the flow of motor vehicle traffic and lessen street and highway congestion will decrease air pollution from cars and trucks. Many of these measures have been recognized and promoted by the Congestion Busters Task Force. The Council knows that over the last two decades, New Jersey's municipalities, counties, and the State Department of Transportation have taken many positive steps to improve traffic flow. These steps include the following: providing left- and right- turn lanes at many intersections; reconstructing certain intersections to eliminate confusion, jogs, and offsets which interfere with signal timing and traffic flow; improving signal timing; converting "isolated" signal installations from fixed timing to actuated operation; putting signals on "flashing" mode at night where traffic flows permit; synchronized, interconnected signals favoring inbound traffic during the morning rush hour, and outbound traffic during the evening rush hour; and synchronization where appropriate during the day; other approaches, such as bike paths, bus shelters, carpool / vanpool encouragement, etc.
14. The Council recommends that the State adopt financial incentives for the use of alternative and renewable sources of energy to replace or complement polluting fossil fuels.

ORAL TESTIMONY

Commissioner Bradley Campbell, NJ Depart. of Environmental Protection

The challenges we face achieving clean air in New Jersey will be increased by the federal new source review rules. Older dirtier coal fired plants would essentially be grandfathered into the provisions. This means more transport of pollutants. 1/3 of New Jersey's air pollution comes from air transport.

Another 1/3 of New Jersey's dirty air comes from transportation and that must be a major source of reduction. There are four major areas of focus:

1. Air pollution comes from transportation resulting from patterns of land use. Right now NJ is losing 50 acres a day to development. Changing these patterns of development through the use of the Big Map can significantly reduce air pollution. Village development and re-population of urban areas can reduce the rate of increase in VMT. People living in villages and urban areas drive less.
2. We must change the way we spend state funding. We need to focus on easing congestion and streamlining mass transit infrastructure. Developed areas need funding to attract residents and riders.
3. We must formulate aggressive strategies for reducing fine air particulates. We need to find solutions to this problem before the federal regulations deem us out of compliance. Retrofits for buses and off-road vehicles must be required.
4. More regional approaches to protecting the air must be regulated. The federal government has abdicated leadership in clean air protection. The mobile source sector needs to be addressed regionally.

Dennis Keck - Assistant Commissioner of DOT

When we look at transportation in New Jersey, it is helpful to analyze travel trends. In the last thirty years state population has increased by 33 %, but vehicle miles traveled (VMT) has increased 150%. There are now 70% more registered vehicles and 70% more registered drivers.

Over the last ten years transportation trends have led to cleaner cars, but more driving. Carpooling is down 12%, walking is down 35% and the number of people driving alone is up 1%.

The Department of Transportation mission is about balancing safety, infrastructure, environment and mobility. DOT's capital budget this year is almost fifty-fifty in terms of investment in public transportation and highways.

DOT has been very active in the State Planning Commission. We support "Fix it First" by limiting highway capacity increases, reducing sprawl and rebuilding suburban corridors. We are also trying to reduce our backlog of deficient bridges. In the State of New Jersey we currently have over six thousand bridges. About twenty-five hundred of those are on State highway systems. The vast majority of the others are on the County systems. We have just ten bridges in our program and the cost of repair could easily exceed two billion dollars. With "Fix It

First” we discovered that just repairing pavement on the ground today over the next ten years could cost easily 1.9 billion dollars.

One of the things we want to do is limit new capacity. No more than four percent of our total 2.5 billion dollar capital program will be used on major new capacity projects because we want to stop subsidizing sprawl. We are working with the Office of Smart Growth to redesign and defer some of our local projects.

We are also supporting New Jersey Transit by working with them on the concept of the transit village. We are also increasing some of our local aid programs so that municipalities will do the planning to encourage growth around rail stations. We have now established about seven Transit Villages. We are encouraging compact mixed use development within walking distance of these stations. One of the commitments of DOT is to add twenty thousand new parking spaces over the next five years for park and ride.

Ride sharing, van pools, alternate work schedules, telecommuting are all supported by DOT. We helped develop eight different transportation management areas in the State and we work with the private sector to develop transportation. The Department spends almost five million dollars a year supporting transportation management associations. To address air quality, Congestion, land use and sprawl require the multi-faceted solutions that DOT is supporting.

Joseph Maraziti – Former Chairman State Planning Board

Growth in New Jersey has been dramatic over the last 20 years and we are still growing at a rate of forty-five thousand people annually. There has been an increase of 806,000 jobs and 1 million people. That put 800,000 more cars on the road and increased air pollution.

New Jersey may become the route of travel as the flow of cargo from Southeast Asia comes through the Suez Canal and arrives in the United States on the East Coast where New Jersey is the gateway to the continent. Today eighty percent of that shipping goes to Los Angeles. In 2020 it is predicted it will be down to seventy-three percent. Then those numbers shift even more dramatically. We will have enormous influx of commerce arriving at Port Newark and Port Elizabeth. When this cargo is offloaded, it will require a caravan twenty-eight miles long of tractor-trucks to move it out of the port. That's an enormous impact on clean air and highways. That cargo will arrive in an incompletely manufactured state, there will still be some more processing that will be required. In all likelihood it will go to Pennsylvania with our highways as conduits to Eastern Pennsylvania.

The most important statistic is that employment will grow by some eight hundred sixty thousand jobs. That means eight hundred thousand more cars on the roads

in the morning and the evening. That means more sprawl. A good definition of sprawl is a pattern of development characterized by inefficient access between land uses or to public facilities or services and a lack of functional open space characterized by being automobile dependent, single use, resource consuming, discontinuous with a low-density development pattern.

Alternative land-use patterns would involve more concentrated, center-based design, more compactness and this is laid out in the State Plan. The State Plan is not anti-growth. The State Plan is designed to find a different way to grow.

Land development in the form of sprawl is characterized by inefficient access between land uses and public facilities. This creates automobile dependence and resource consumption, which in turn creates pollution. The State Plan was developed to counteract these patterns of growth. The goals of the State Plan are:

1. Revitalize the state's cities and towns.
2. Conserve the State's natural resources and systems.
3. Promote beneficial economic growth, development and renewal.
4. Protect the environment, prevent and clean up pollution.
5. Provide adequate public facilities and services at reasonable cost.
6. Provide adequate housing at reasonable cost.
7. Preserve and enhance areas with historic, cultural, scenic, recreational and open space value.
8. Ensure sound and integrated planning and implementation statewide.

The importance of statewide coordination and regional coordination cannot be underestimated. Overall planning, taking into account air quality needs, is critical. Center-based land-use patterns will reduce automobile dependency, shorten trip lengths and encourage use of alternative modes of transportation. The revitalization of our cities will effect center-based planning. New Jersey has an economy, which if we were separated as a country, would eclipse most of the nations of the world and yet we don't have one city that people are eager to visit. The BIG map will help with this redevelopment by placing resources in areas of the state where growth should be encouraged. Coordinating the BIG map with all of the State's agencies will insure coordinated growth.

Adam Zeller – Department of Community Affairs, Office of Smart Growth, Executive Director

The office of Smart Growth is the land use-planning unit for New Jersey. The Smart Growth Policy Council works with State agencies to incorporate the State Plan and Smart Growth principles in their plans, regulations and programs.

The office of Smart Growth seeks to pilot strategies to reduce mobile emissions and to improve transportation throughout the State. Managed growth will target resources and funding to preserve open space and support multi-modal transportation.

The Transit Village Program is one way to reduce automobile dependency. A Transit Village community is oriented to multi-modal transportation. A Village master plan is submitted to the Smart Growth office and approval means funding for this redevelopment.

Mixing residential with industrial, offices and institutions near transportation hubs will contribute to better air quality by decreasing VMT and congestion. The NJ Housing and Mortgage Finance Agency working with Smart Growth is encouraging employees to live near work in their HomeWorks program. Brownfields redevelopment is another incentive. New Jersey has the best-located brownfields in the nation and they are finally being redeveloped.

Michael Moltzen – EPA Region II, Mobile Source Team Leader

Air quality in New Jersey is closely tied to transportation issues. In 1996 Highway vehicles contributed 40% of volatile organic compound emissions and 44% of NO_x from all source categories. VMT per day in the State is estimated to have increased by almost sixteen million miles per day between 1996 and 2000.

Some of the EPA programs that address the larger problem of air quality are quite innovative although voluntary. They require building partnerships in the public and private sectors with businesses, citizen groups, industry and state and local governments.

The voluntary diesel retrofit program seeks to encourage private fleets to use retrofit equipment. EPA is developing a grant program for half a million dollars in grants to purchase equipment to retrofit diesel vehicles.

In the Commuter Choice Leadership Initiative EPA addresses getting employees to and from work. This program currently represents thirteen hundred employers with six hundred thousand employees where the employer provides van transit to work and designates points of contact and centralizes information. The

Commuters who use the transit van are guaranteed a ride home if they work late or if there is an emergency. This program requires that employers offer their employees a minimum of thirty-two dollars per month for not parking. The employer's rewards include public recognition and recruitment advantage.

The Smart Way Transport program aims to reduce emissions of greenhouse gas and emissions from the freight sector. This is an attempt to reduce up to two hundred thousand tons of nitrogen oxide, up to eighteen million metric tons of carbon equivalent emissions annually or twenty percent of total freight carbon. A major practice that this program encourages is idle reduction. Trucks on average burn eighteen hundred gallons of fuel a year just in idle. Technology has been implemented in New York City at three locations utilizing a system which pumps in warm or cool air and provides electrical outlet cables to reduce the need for idling trucks.

I believe currently there are only four companies in New Jersey in this program, which represents approximately twenty-seven hundred employees so it is not insignificant, but there is a huge potential.

Michael Cerra – League of Municipalities Senior Legislative Analyst

All of New Jersey's municipalities are members of the League even though there is no requirement. The League's annual conference in Atlantic City is the largest annual municipal conference in the United States. The League also does independent research on issues of local government and holds hundreds of seminars throughout the year, lobbies the State Legislature and protects home rule.

"Smart Growth" has become an essential part planning in New Jersey. An important element of "Smart Growth" is smart transportation. Two aspects that the League has the greatest interest in are the strategies that address sustainable development through the elimination of sprawl and the application of mixed-use concepts. Unfortunately, we have a large constituency that likes sprawl and opposes mixed use.

People often choose to live near excellent schools. The development community and the lending community see this and make their investment decisions accordingly. The State Plan gives little guidance on retrofitting classic sprawl into mixed use when the homes and businesses and developers are happy with the status quo. We are also of the opinion that the objectives of "Smart Growth" will not be met until there is significant Mount Laurel reform. The Mount Laurel doctrine, which requires every municipality to provide its fair share of housing to the low and moderate income, effectively imposes additional housing on less developed areas, regardless of whether the municipality has the existing infrastructure to accept such housing. Municipalities look for ratables to offset

these costs. The goals of the "Smart Growth" are in direct contradiction to the actual results of the Mount Laurel doctrine.

The League has been working with the Department of Environmental Protection on the development of the "Blueprint for Intelligent Growth," better known as the BIG map. We try to act as the intermediary between DEP and our members to ensure that every municipality has input on the map. New Jersey's Mayors, Governing Body members and planning officials have let the Administration know how the map affects their communities. Numerous local officials have raised home-rule concerns over the map.

Additionally, the Governor has outlined a legislative package that will include, legislation authorizing municipalities to assess impact fees, timed-growth ordinances, transfer of development rights and more regional input in the development application process, particularly in so-called "border conflicts" between municipalities. "Smart Growth" needs to be home rule friendly. The League believes that home rule is not the problem, it is the solution. Critical to the success of "Smart Growth" is the inclusionary dialogue that is the cross-acceptance process.

Because New Jersey is so densely populated, efforts to reduce traffic congestion are to be applauded. The recent light rail lines in northern New Jersey and here in central Jersey are illustrations of the State Plan working well. "Smart Growth" can help guide development and redevelopment into centers, to use public transportation and promote environmental protection policies that will lead to cleaner air. Substantial funding from the State and new regional agencies are needed to begin regional planning. Right now only county governments have any power to plan regionally and that is very limited.

Greg Dana – Alliance of Automobile Manufacturers, Vice-President Environmental Affairs

In 1996 forty percent of air pollutants came from motor vehicles, but with advanced technology, that is no longer true. Most emissions from new cars today are emitted during the first fifteen to sixty seconds of warm-up of the car. In addition to the denser cell structure in the catalyst (400 to 900 cells), the amount of fuel used is more closely controlled. The fuel is monitored so closely that only the exact amount of fuel needed is used.

The changes that will come about through the EPA Tier 2 rulemaking will improve air quality. All light trucks will be required to meet the same emission standards as passenger cars. Tier 2 will cut NOx emissions and reduce evaporative hydrocarbons. By 2020 the entire fleet will be Tier 2 vehicles.

We are meeting a standard, which is very close to zero on NOx. Cleaner vehicles in New Jersey will make a huge impact on monitored emissions. The California standard and the Federal standard are virtually identical. The only real difference in the California program is the ZEV mandate. They have a zero emission mandate set in 1990 to require the auto industry to make zero emission vehicles. California has consistently backed away from that when they realized they really aren't feasible in the marketplace. There are electric vehicles in use, but the range is limited and they use acid batteries. The cost is prohibitive, the range is only seventy-five miles and it takes four to six hours to recharge them. Neighborhood electric vehicles and city vehicles do have niche applications. However, gasoline cars today are very close to zero emissions.

Fuel cell technology is also in development, but these cars currently cost one million to produce. Some projections put fuel cells on the market by post 2010 with the promise of zero emissions. The fuel cell is the long - term strategy. BMW is working on hydrogen for internal combustion engines, which has a filling system that creates the hydrogen from panels on the roof of the station.

John Ciaffrone – TransOptions, President

TransOptions represents all Transportation Management Associations (TMAs) in New Jersey. The Transportation Management Associations are divided into geographic areas. Some are county affiliated, some are totally independent. TMAs work with employers to create new methods of commuting to work.

With 790 vehicles per square mile in New Jersey and 6.4 million registered drivers, options for commuting are critical. Eighty-seven percent of single occupancy vehicles are used to drive to work. By the year 2025 by virtue of the extra million people we will increase the annual cost of traffic congestion which is now 7.3 billion dollars in lost time, operating costs and wasted fuel. That's an average of twelve hundred fifty-five dollars per licensed driver, an increase of three hundred seventy-five dollars per driver between 1998 and 2001.

Traffic congestion has been an air quality problem for a long time and that the inefficiency of the internal combustion engines put hazardous gases and particulates into the air each year,

There are many answers to the problem of mobility in New Jersey. First, is the TEA-3 (Transportation Equity Act) reauthorization. The demand now is much greater. Six years ago there were six new starts, like the Hudson-Bergen Light Rail, now there are two hundred twenty-five requests. It is critical that New Jersey fights for more money for mass transit to improve air quality. This should include an increase in fringe benefits for car poolers, bicyclers, ride-a-shuttle people and walkers. This can be funded at no cost by capping the maximum parking fringe benefit. That's the only fringe benefit that ties into an annual

increase. It now costs one hundred ninety dollars a year to park. It is a fringe benefit for using a car. Another source of income is the gas tax in New Jersey. A ten cent increase per gallon would generate over five million a year.

Ride sharing can be encouraged by State policy-makers. Two employers representing over four thousand employees are trying to attain a fourteen-percent level for eighteen months. One of our companies with thirty-five hundred employees attained that level in six months. An important inducement was putting a shuttle between the local train station and place of employment. The biggest problem in Morris and Somerset County is that there is no rail connection. Ridesharing reduces traffic congestion, gas usage, dependency on foreign oil and has environmental benefits. It is much safer to ride in a bus or train than in a car.

With the dredging of the harbor in Newark and Elizabeth and with approximately three billion cargo containers a year, truck traffic will increase. Rail freight therefore needs rejuvenation. Going to New England the only current rail crossing is in Albany.

David Piech – International Truck and Engine, Senior Counsel

We believe that diesel is and will be the environmental solution to today's and tomorrow's problems. International is the leading manufacturer of heavy-duty trucks, medium sized trucks, school buses and dump trucks. We are the largest worldwide manufacturer of the diesel engine.

New EPA regulations are driving diesel technology. Starting in 2004 there will be a reduction of almost fifty- percent in NOx. Beginning in 2007 NOx will be down ninety-five percent and particulates down ninety percent from today's levels.

Diesel engines were first introduced in the late eighteen hundreds. But, in the last five years the technology of diesel engines has improved significantly. By 2007, NOx absorbers and particulate traps as well as newer valve drain technology will be added. In 2010 improvements will include advanced NOx absorber technology. The diesel engine in the light-duty market will have a place in the future.

Sulfur in gasoline is decreasing and green diesel technology is also an option. This 530 cubic inch, 275 horsepower diesel engine is lower in NOx and lower in particulates.

The green diesel school bus compared to the leading natural gas school bus has a lower PM level and lower NOx. The cost is also lower. Diesel is cheaper than hydrogen fueled vehicles because of existing infrastructure. This will cost half a million to over two and-a-half million dollars per facility. Our school bus program

has qualified in California because of our lower emissions. Besides new vehicles, we have an emissions technology program involving retrofits. Through retrofits we can get over eighty percent reduction in particulates and hydrocarbon, depending on the age and condition of the older school buses or older trucks. It achieves a virtually smokeless, odorless diesel vehicle for vehicles already in service.

Regarding the cost of ultra-low sulfur diesel fuel. BP, Chevron and Phillips are developing these fuels. By taking the sulfur out, the catalyst is more aggressive and more durable. The problem with biodiesel fuel is that it can be inconsistent so no more than twenty percent diesel blend is recommended.

Gary Johnson – Interested public

Traffic congestion and suburban sprawl are contributing to many of New Jersey's problems. The decline of our cities, decreasing open space and the crowded highways impact all of us. New Jerseyans need to switch in large numbers to mass transit. By introducing a Traffic Relief Tax of \$.25 per gallon initially and increasing that tax yearly until it reaches the levels found in Europe will discourage driving and provide monies for mass transit.

The Traffic Relief Tax could also be used for property tax relief by paying for road maintenance based on VMT. Thus, someone traveling only 2,000 miles per year would not be paying for road maintenance at the same rate as someone traveling 40,000 miles per year. Also, automobile insurance could also be based on the odometer reading in each car and the per-mile cost of insurance.

The Traffic Relief Tax could also fund the installation of sidewalks and bike paths, which will remove a barrier to physical activity and reduce the cost of healthcare. The Tax could fund also commuter shuttle buses taking would-be drivers to the train station. New Jerseyans will change their driving habits if it saves them money.

Martin Robins – Director Voorhees Transportation Policy Institute, Rutgers

New Jersey's "Smart Growth" principles could change the current transportation trends. We need to shape the mass transportation system in New Jersey so that the result is cleaner air. In the northeast rail corridor, NJ's Main Street, ridership has grown 127% over the past 20 years. The major problem with using mass transit has been our sprawling patterns of development. Land use decisions and investments are central to travel behavior. Facts should convince us that compact, walkable settlements work in reducing auto reliance.

More than 60% of NJ resident workers near Jersey City's transit hub reach work by transit, walking or bicycle. Suburban office park workers travel by auto to

work. People who live proximate to train stations use transit to work at a higher rate than people living further away. Transit-oriented housing along the Hudson River is expanding rapidly. When NJ Transit initiated Midtown Direct services on the Morris & Essex Line in 1996, ridership grew to 11,000 daily.

There is a need to invest in infill sites near our train and bus stations and to invest in making the transit system more useful to more New Jerseyans.

James Sinclair – Chairman Congestion Busters

There are methods available to the State to reduce congestion and thereby improve air quality. The Congestion Busters recommendations from October 2002 have been presented to the State and should be supported by this Council.

The New Jersey Task Force is a fairly broad task force representing citizen groups, representatives from the business community, government officials, local transportation agencies. We looked all around the country and selected good ideas for incentives for people to get people out of their single occupancy vehicles.

The Task Force tried to come up with short-term suggestions. One of those solutions had to do with pricing congestion, like raising or lowering the price of the roadway at peak traffic times. It can be done with rationing lanes, HOVs or the like.

Rationing strategies was another idea, for instance. restrictions on the number of vehicles that can be registered and restrictions on times for operating vehicles. A license plate would be issued that limits driving a car on Tuesdays or Wednesdays. It is really a politically sensitive subject when it comes to the kinds of restrictions that people will accept.

With “Smart Growth” congestion is a big issue because the proposed million additional people coming to New Jersey will create more congestion. The business community has to work with the local transportation management agencies. The advantages of expanding the Park-and-Ride programs were discussed.

New Jersey is predicted to have four times the freight volume, which means four times the volume of trucks moving around the State. That might mean getting the trucks out of the morning rush hour in our urban areas and have the deliveries at off-peak hours.

New Jersey needs to invest more in public transportation so that it becomes an attractive alternative for people.

Robert Campbell – Sierra Club

Ozone and particulate matter are still serious air pollutants in New Jersey. Complying with the Clean Air Act (CAA) has been a major problem since 1970. Automobiles are a major source of these contaminants.

The increasing popularity of “light trucks” or SUVs has increased gasoline consumption and contributed to the problem even though the cars are cleaner burning vehicles. Half of all vehicles sold in the US last year were SUVs, vans and pick-ups.

Three states in the northeast, Massachusetts, New York and Vermont, have already adopted the California low-emission vehicle (LEV) Phase II standards for tailpipe emissions. Among those states, the standards will apply the emissions requirement of passenger vehicles to SUVs and all light trucks beginning in either 2003 or 2004. Since the US Senate failed last year to approve an increase in the CAFÉ standards. They have failed to reduce our nation’s dependence on foreign oil and reduce the massive volumes of nitrogen oxides (NOx), Volatile Organic Compounds (VOCs) and particulates emitted by cars and light trucks.

The EPA Cumulative Exposure Project indicates that there were 24 carcinogenic chemicals predicted to exceed health benchmarks in 1990. Benzene, 1,3 butadiene and formaldehyde are listed as mobile and exist statewide. It is essential that the State Senate, Assembly and the NJ Clean Air Council work together to approve the bills introduced two years ago in both houses calling for NJ to adopt the more stringent California LEV Phase II regulations for vehicles sold in NJ beginning in the year 2006.

Diane Blake – President Regional Planning Partnership

The Regional Planning Partnership is a non-profit organization formed in 1968 to protect the quality of community life through sound land use planning and regional cooperation. Our Board is made up of people who represent corporations, the development community, the environmental community and the public sector.

We are all interconnected through roads, rails, bridges and tunnels, and we are connected with sewer lines and septic areas. We are connected through the watersheds, wetlands and surface water and all these things affect our water and air. What is done at the local level affects all these large systems.

New Jersey’s landscape would be destroyed and the State in gridlock if a full build-out of the current zoning were to happen. Nobody wants that but planning is required if we are to move on to some other future starting where we are.

It is always important to remember that Americans really hate sprawl and they also really hate density, which is what we are asking them to accept when we are talking about public transit. The real question is where are we going to grow? We are asking people to build in areas where there is also Infrastructure. If we select growth centers and connect them with transportation we can save open space. That's the technique we are asking to be applied regionally. This is about reducing dependency on automobiles. Density and congestion have to be redefined if we are going to be providing the amenities of public transportation, commerce, interaction, a walkable community life. Density and congestion have to be looked at in a new way. We are proposing legislation to help promote the regional planning process and when the public sees how it fits into New Jersey's goals, I think they will support it.

The property tax issue has been raised today. Since a lot of the transportation initiatives are about where the houses are in relation to jobs, communities will not take on more housing in those transit corridors unless they have the support to pay for the school children.

Regional planning is working in New Jersey in the Meadowlands and the Pinelands because they were created through special legislation. There were also very compelling environmental reasons to make planning work. In the Pinelands every town gets to do its own planning, it has to be certified, and there is plenty of Home Rule.

In "Smart Growth" two major items need to be considered. One is build-out of the Master Plan because zoning is controlled land use. Most municipalities do not know the long-term implications of their zoning ordinances. The second item involves the capacity of the system. It is very important to encourage growth in an area where the capacity of the system can support it and there is very little information about the capacity of systems in any particular location.

Robert Babik – General Motors Director Vehicle Emission Issues

A discussion of auto manufacturers long-term goals might be helpful at this juncture. Although we have made great progress with reducing emissions, we are in the process of re-inventing the automobile to make it even more environmentally sound and safe. Right now the California car and EPA's Tier 2 standards are almost identical. However, GM intends to move advanced technology through an evolutionary period with hybrid electric vehicles. We are also developing eight cylinder vehicles that run on four cylinders when less energy is needed.

GM is also developing new hybrids. We started out with the hybrid transit bus because that technology had a big impact first on a large vehicle in urban

settings. We are now concentrating on smaller vehicles. We are putting hybrid technology in the Saturn VUE, the Chevrolet Equinox, Malibu Sedan, and other vehicles which will debut in 2005, 2006 and 2007. This allows the consumer the choice of a hybrid pickup truck.

We are implementing the technology so there is no trade-off as to vehicle performance and consumer demand. We even have a 110-volt outlet in our pick-up truck for construction workers so they can plug in tools and use them. Affordability is another consideration. We are making an effort to get consumer-based tax credits in the near term for hybrids since they are more expensive to manufacture.

GM is also into fuel cells development. The only feasible way to obtain zero emissions is with hydrogen. At the 2002 auto show GM produced a futuristic hydrogen fuel cell car, the HY-Wire. The car has no dashboard, everything is on the floor which makes it safer than conventional vehicles. It might even be possible one day to use the hydrogen fuel cell in your car to power your house. The house would be off the grid because the fuel cells in the car would actually power a house with sixty-five to seventy-five kilowatts.

It is important to support state and local agencies that purchase advanced technology vehicles. It is also important to promote policies that change consumer behavior.

Andrew Hudson – NJ PIRG Clean Air Associate

Adopting the California car emissions program is the most important thing New Jersey can do right now to improve air quality. Blaming Pennsylvania and Ohio is not helpful when we not doing everything we can in New Jersey to reduce the pollution from our cars.

GM is now manufacturing hybrid automobiles when just a few years ago General Motors said the company would never be able to build hybrid cars without substantial government subsidies, they were just not cost effective.

If we are serious about reducing emissions in New Jersey, we have to push the automobile industry to do more than they are doing and the only way we can do that is with the California emissions program. It is an either/or choice between the Federal program or the California program in New Jersey and all the analyses show that the California car is the better choice.

The last thing in looking at the big picture is to be cognizant that air quality problems result from more than just cars. If we want to solve the larger problem, we need to support the development and production of renewable sources of energy.

Jeff Tittel – Director NJ Sierra Club

Dealing with both transportation and air quality is very complex. Mass transit is lacking and New Jersey is number 1 in this nation in VMT. We have more vehicles in the State of New Jersey than we have registered drivers. There is one automobile for every acre and a quarter in New Jersey and the reason for this is bad land use planning. There has been a pattern of overbuilding along little country lanes which are then widened. New Jersey is overbuilt.

The Department of Transportation should be planning and investing where the infrastructure already exists. In Oregon they ran a light rail line to areas that had projected growth. That is how we have to look at planning in New Jersey. Those wonderful railroad suburbs created before the turn of the last century should now become the models for "Smart Growth." Communities, like Westfield, Cranford or South Orange were developed mixed transit centers and mixed use around them. Park and Ride will encourage Smart Growth. In developing a transit system with increased density, we have to have the sewer and water capacity to allow that increase.

This kind of planned growth and increased mass transit will improve air quality. In an average year twenty thousand residents are taken to emergency rooms because of respiratory illness due to air quality. The California car would produce the benefit of reduced fuel consumption as well as emission reductions. DEP did a study showing major reductions in air toxins, which were up to twenty-three percent reduction with the California car.

One of the biggest failures in the last administration was the trip reduction program. It was voluntary and haphazard and it didn't work. Other states been able to work on trip reduction programs.

The last census report showed that in most of the major towns in New Jersey half the people still work within the Counties in which they live. We need more mass transit for these commuters, like hybrid buses. Unfortunately, New Jersey Transit is locked into a long-term contract to buy seven thousand diesel buses, the largest diesel bus contract purchase in the history of the United States. We need to find alternative renewable energy for New Jersey by integrating our transit needs and transit system with alternative and renewable energy, which will also go a long way towards cleaning our air.

Written Testimony

Ford Motor Company

In 1998 the US EPA adopted the most stringent federal vehicle emission requirements in the world. The Tier 2 standard not only brought about significant reductions in car emissions, but brought trucks down to passenger car levels. Tier 2 standards reduce emissions by an additional 60% for cars and 90% for trucks.

This required reduction in emissions makes the emission control system one of the most expensive parts of the vehicle. When developing Tier 2 rules, EPA took into account the air quality needs of the entire country. Conversely, the California LEV program only considers California's needs. Modeling has been done comparing the impact of Tier 2 with California LEV and the difference between the programs is insignificant.

In developing Tier 2, Ford worked with EPA to align them as much as possible to the California's LEVII standards. This was to minimize development and manufacturing complexity by providing manufacturers with the opportunity to produce a single vehicle for both markets. Ford voluntarily committed to certify all SUVs and pick-up trucks to the California low emission vehicle standards.

Another result of minimizing production complexity has led Ford to commit to providing California evaporative emissions hardware on vehicles sold federally. Most new Ford vehicles will continue to be certified for sale in both California and federal states.

Ford also has the widest range of alternative fueled products of any manufacturer. Some are operated on liquefied petroleum gas or ethanol as well as an array of natural gas vehicles, all available in California and federal states. The new Escape hybrid electric vehicle is the most fuel-efficient SUV and the most practical hybrid ever built. It will deliver nearly 40 miles per gallon in city driving as well as meet the most stringent tailpipe emissions standards (SULEV). Ford is also dedicated to the realization of fuel cell powertrains in consumer vehicles. Ford is working to develop these technologies out of concerns for global warming, urban pollution and energy security.

Central Jersey Rail Coalition

The Central Jersey Rail Coalition is an advocacy group that was founded in 1997 to foster restoration of passenger rail service through central Monmouth, Ocean and Middlesex Counties. The Coalition seeks to have NJ Transit resume passenger train service along an existing freight route from Lakehurst to New York-New Jersey along an existing freight route from Lakehurst to New York-

New Jersey metropolitan area via Farmingdale, Freehold and thence to Monmouth Junction where trains would continue along the Amtrak Northeast Corridor. This route, referred to as the Monmouth-Ocean-Middlesex (MOM) line, offers particular benefits to a region that is currently lacking in public transportation alternatives.

The purpose of the CJRC effort is to enhance air quality by reducing traffic and allowing for expected growth in population and employment. It is expected that these three counties will be home to $\frac{1}{4}$ of New Jersey's population by the year 2010. With no rail connections, the reliance on automobiles to commute to the workplace will continue to grow. A ten-car passenger train can accommodate up to 800 passengers. Restoring this service would reduce congestion and air pollution.

Editor: Eileen Hogan, M.A

Glossary of Acronyms

BIG map – Blueprint for Intelligent Growth map

CAA – Clean Air Act

CAAA – Clean Air Act Amendments

CEHA – County Environmental Health Act

CEP - Cumulative Exposure Project

DOT – Department of Transportation

HOV – High Occupancy Vehicle

LEV – Low Emission Vehicle

ULEV – Ultra Low Emission Vehicle

NJDEP – New Jersey Department of Environmental Protection

NOx – Nitrous Oxides

PM – Particulate Matter

SUV – Sport Utility Vehicle

RFG – Reformulated Gasoline

TEA – Transportation Equity Act

TMA – Transportation Management Association

ULEV – Ultra-low Emission Vehicle

USEPA – United States Environmental Protection Agency

VOC – Volatile Organic Compound

VMT – Vehicle Miles Traveled

ZEV – Zero Emission Vehicle

CAC PUBLIC HEARING HISTORY

2003	Moving Transportation in the Right Direction
2002	Innovative Solutions for Clean Air
2001	Air Quality Needs Beyond 2000
2000	Air Toxics in New Jersey
1999	The Impact of Electric Utility Deregulation on New Jersey's Environment
1998	CLEAN AIR Complying with the Clean Air Act: Status, Problems, Impacts, and Strategies
1997	Particulate Matter: The proposed Standard and How it May Affect NJ
1996	Clearing the Air Communicating with the Public
1995	Strategies for Meeting Clean Air Goals
1994	Air Pollution in NJ: State Appropriations vs. Fees & Fines
1993	Enhanced Automobile Inspection and Maintenance Procedures
1992	Impact on the Public of the New Clean Air Act Requirements
1991	Air Pollution Emergencies
1990	Trucks, Buses, and Cars: Emissions and Inspections
1989	Risk Assessment - The Future of Environmental Quality
1988	The Waste Crisis, Disposal Without Air Pollution
1987	Ozone: New Jersey's Health Dilemma
1986	Indoor Air Pollution
1985	Fifteen Years of Air Pollution Control in NJ: Unanswered Questions

1984	The Effects of Resource Recovery on Air Quality
1983	The Effects of Acid Rain in NJ
1981	How Can NJ Stimulate Car and Van Pooling to Improve Air Quality
1980	(October) Ride Sharing, Car – and Van-Pooling
1979	What Are the Roles of Municipal, County, and Regional Agencies in the New Jersey Air Pollution Program?
1978	How Can NJ meet its Energy Needs While Attaining and Maintaining Air Quality Standards
1977	How Can NJ Grow While Attaining and Maintaining Air Quality Standards?
1976	Should NJ Change its Air Pollution Regulations?
1974	Photochemical Oxidants
1973	Clean Air and Transportation Alternatives to the Automobile and Will the Environmental Impact Statement Serve to Improve Air Quality in NJ?
1972	The Environmental Impact on Air Pollution: The Relationship between Air Quality, Public Health, and Economic Growth in NJ
1971	How Citizens of NJ Can Fight Air Pollution Most Effectively with Recommendations for Action
1970	Status of Air Pollution From Mobile Sources with Recommendations for Further Action
1969	Status of Air Pollution Control in NJ, with Recommendations for Further Actions

